

82
The two wax dispersions were separately dry blended with Himont PROFAX® PF-015 polypropylene (Montell Polymers, Wilmington, Delaware). The mixture was melt blended using a single screw compounding extruder. The compositions of the two blends are given in Table 2.

Please replace the paragraph on page 21, beginning with the words "Nonwoven fabrics were manufactured ..." with the following:

83
Nonwoven fabrics were manufactured on a 100-inch (about 2.5-meter) meltblown line essentially as described in U.S. Patent No. 3,849,241 to Buntin et al., which is incorporated herein by reference. The 100-inch wide web was slit into five 20-inch (about 51-cm) sections. Of these, the outer 20 inches (about 51 cm) on either side of the web were discarded. The remaining three slits represent cross deckle positions from 20 inches (about 51 cm) through 80 inches (about 203 cm). Meltblowing conditions were the same for all materials. The line speed was varied to alter the basis weight. Basis weights of 0.5 ounces per square yard or osy (about 17 grams per square meter or gsm), 0.6 osy (about 20 gsm), 0.75 osy (about 25 gsm), and 1.0 osy (about 34 gsm) were spun from the PROFAX® PF-015 polypropylene alone (the control, coded PP-A) and from each formulation containing barium titanate (see Table 2). All basis weights of meltblown webs were electret treated on-line under identical conditions. The electret treatment was carried out in accordance with the teachings of U.S. Patent No. 5,401,446, described earlier.

84
Please replace the paragraph on page 26, beginning with the words "Barium titanate was obtained from ..." with the following:

Barium titanate was obtained from the Transelco Division of Ferro Corporation (Dresden, New York, Product Code 219-9). In this example, didodecyldimethylammonium bromide (DDAB) was the stabilizing surfactant. Typically, 200 g of barium titanate was added to 1 L of 2-propanol and vigorously stirred. Approximately 0.8 g of DDAB was added to the mixture. The slurry was stirred and sonicated (Fisher Scientific Sonifier, Fischer Scientific Company, Philadelphia, Pennsylvania) for approximately 5 minutes. The resulting slurry was poured into a 2-L Roalox ceramic mill jar which was charged with 4.5 lbs (about 2 kg) of BORUNDUM® grinding media (see Example 1). The mill jar was then rolled at 70 rpm for a period of 48 hours on a U.S. Stoneware Unitized Jar Mill, Model 764AVM.

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Please replace the paragraph on pages 28 and 29, beginning with the words "Meltblown nonwoven fabrics ..." with the following:

85

Meltblown nonwoven fabrics were prepared on a research meltblowing line essentially as described in U.S. Patent No. 3,849,241 to Buntin et al., identified earlier. Meltblown fabrics were made from the PROFAX® PF-015 polypropylene alone (PP-A) as a control and the polypropylene/stabilized barium titanate formulations containing 1.0 percent by weight and 0.1 percent by weight barium titanate (PF-C and PF-E, respectively). The formulation containing 0.5 percent by weight barium titanate (PF-D) was not melt spun. In each case, webs having basis weights ranging from 0.5 osy (about 17 gsm) to 2.0 osy (about 67 gsm) were prepared. The melt-spinning conditions used for the control and barium titanate formulations were identical.

Please replace the paragraph on page 35, beginning with the words "The mixing tank was filled ..." with the following:

86

The mixing tank was filled with 190 lb. (86.4 kg) of technical grade 1-butanol. Then, 7.2 lb (3.27 kg) of RHODAMEEN PN430 (Rhone-Poulenc) was added with vigorous stirring. The barium titanate was added in 55-lb (about 25-kg) portions until a total of 770 lb (about 350 kg) had been added to the mixing tank. The slurry was pumped to the high speed pin/attriter mill and recycled to the mixing tank for approximately 30 min. The resultant 1-butanol dispersion was uniform in composition and contained 80 weight-percent barium titanate.

Please replace the paragraph on page 36, beginning with the words "In this example, ..." with the following:

87

In this example, 969.20 lb. (440.55 kg) of 1-butanol/barium titanate/ RHODAMEEN® PN-430 dispersion was combined with 190.8 lb. (86.73 kg) of A-C 16 PE wax. The molten wax and 1-butanol dispersion were blended continuously until no alcohol vapor was detected over the mixture. At this point, the BaTiO₃/ RHODAMEEN® PN-430/A-C 16 PE wax dispersion was poured into a tray to cool to room temperature. The solidified wax composite was further cooled to dry ice temperature and ground to a coarse powder for dry blending with polypropylene.

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Please replace the paragraph on page 36, beginning with the words "The BaTiO₃/Rhomadeen® ..." with the following:

E8

The BaTiO₃/RHODAMEEN® PN-430/A-C 16 PE wax composite, 832 lb (about 378 kg) was dry blended with 2,496 lb (about 1339 kg) of Montel PROFAX® PF-015 polypropylene (PP). The dry mixture was melt blended using a single screw compounding extruder to give a mixture containing 20 weight-percent of barium titanate.

Please replace the paragraph on page 36, beginning with the words "A 600-lb. (273-kg) portion ..." with the following:

E9

A 600-lb. (273-kg) portion of the 20 weight-percent concentrate prepared above was then blended with 1800 lb (about 818 kg) of Montel PROFAX® PF-015 polypropylene. This dry blend was melt blended using a single screw compounding extruder to yield a 5 weight-percent barium titanate/polypropylene composite.

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Please replace the paragraph on page 37, beginning with the words "Samples of meltblown material..." with the following:

E10

Samples of meltblown material were taken from ten cross deckle positions (i.e. 2 per 20-inch slit) of the nonwoven webs described above. Samples were cut as flat sheets approximately 8-inches (about 20-cm) square. A minimum of 20 samples were evaluated for pressure drop (Δp in mm H₂O)) and percent particle penetration (% P). Tables 13 through 15 summarize the pressure drop and particle penetration data for the control (Montel PROFAX® PF-015) and the barium titanate containing formulations.

The above amendments are intended simply to more clearly identify the referenced trademarks as requested by the Examiner and do not involve new matter.

Remarks

Applicants' attorney thanks the Examiner for her comments. Applicants' attorney further acknowledges that the Examiner has withdrawn Japanese Patent Abstract JP 60-126310 in view of the Applicants' arguments in their previous Amendment in response to the Examiner's first Office Action in this matter.

Pursuant to 37 C.F.R. § 1.111, reconsideration of the present application in view of the foregoing amendments and the following remarks is respectfully requested.